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U.S. Patent Application Serial No. 09/787,668
Reply to Office Action dated July 25, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A synthetic middle distillate cut comprising more than 50 mass% paraffins lighter than C_{16} and in which more than 50 mass% of the total paraffins of the middle distillate cut are isoparaffins, and wherein the isoparaffins being predominantly methyl and/or ethyl and/or propyl branched wherein

a C_{10} to C_{18} fraction of the synthetic middle distillate cut has a mass ratio range of isoparaffins to n-paraffins of between 1:1 and 9:1;

a C_8 to C_9 fraction of the synthetic middle distillate cut has a mass ratio range of isoparaffins to n-paraffins lower than that of the C_{10} to C_{18} fraction; and

a C_{19} to C_{24} fraction of the synthetic middle distillate cut has a mass ratio range of isoparaffins to n-paraffins of from 3.3:1 and 5:1.

2. (Previously Presented) A synthetic middle distillate cut as claimed in claim 1, wherein the isoparaffins to n-paraffins mass ratio profile of the synthetic middle distillate cut increases from about 1:1 for C_8 to 8.54:1 for C_{15} and decrease again to about 3:1 for C_{18} .

3-5. (Canceled)

6. (Previously Presented) A synthetic middle distillate cut as claimed in claim 2, wherein the C_{19} to C_{24} fraction of the middle distillate cut has a mass ratio range of isoparaffins to n-paraffins of between 4:1 and 4.9:1.

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7. (Previously Presented) A synthetic middle distillate cut as claimed in claim 2 which comprises 30 mass% of a straight run component thereby selecting the isoparaffins to n-paraffins mass ratio of the C₁₀ to C₁₈ fraction to between 1:1 and 2.5:1.
8. (Previously Presented) A synthetic middle distillate cut as claimed in claim 2, which comprises 20 mass% of a straight run component thereby selecting the isoparaffins to n-paraffins mass ratio of the C₁₀ to C₁₈ fraction to between 1.5:1 and 3.5:1.
9. (Previously Presented) A synthetic middle distillate cut as claimed in claim 2, which comprises 10 mass% of a straight run component thereby selecting the isoparaffins to n-paraffins mass ratio of the C₁₀ to C₁₈ fraction to between 2.3:1 and 4.3:1.
10. (Currently Amended) A synthetic middle distillate cut as claimed in claim ~~[[3]]~~1, wherein the isoparaffins to n-paraffins mass ratio of the C₁₀ to C₁₈ fraction having substantially only a hydrocracked component is between 4:1 and 9:1.
11. (Previously Presented) A middle distillate cut as claimed in claim 1, wherein at least some of the isoparaffins are di-methyl branched.
12. (Previously Presented) A middle distillate cut as claimed in claim 1, wherein at least 30 mass% of the isoparaffins are mono-methyl branched.
13. (Previously Presented) A middle distillate cut as claimed in claim 1, wherein at least some of the isoparaffins are ethyl branched.
14. (Previously Presented) A middle distillate cut as claimed in claim 1, wherein the ratio of isoparaffins to n-paraffins of the middle distillate cut is from about 1:1 to about 9:1.

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15. (Previously Presented) A synthetic middle distillate cut as claimed in claim 14, wherein the isoparaffins to n-paraffins mass ratio is between about 2:1 to about 6:1.

16. (Previously Presented) A synthetic middle distillate cut as claimed in claim 15, wherein the isoparaffins to n-paraffins mass ratio is 4:1.

17. (Previously Presented) A synthetic middle distillate cut as claimed in claim 1, having a light fraction in the boiling range 160°C to 270°C wherein the isoparaffins to n-paraffins mass ratio of the light fraction is from 1:2 to 4:1.

18. (Previously Presented) A synthetic middle distillate cut as claimed in claim 17, having the light fraction in the boiling range 160°C to 270°C wherein the isoparaffins to n-paraffins mass ratio of the light fraction is 2.2:1.

19. (Previously Presented) A synthetic middle distillate cut as claimed in claim 1, having a heavy fraction in the boiling range 270°C to 370°C wherein the isoparaffins to n-paraffins mass ratio of the heavy fraction is from 4:1 to 5:1.

20. (Canceled)

21. (Previously Presented) A synthetic middle distillate cut as claimed in claim 1, wherein the synthetic distillate is derived from one or more FT primary product.

22-58. (Canceled)